

SPECIES ACCOUNT

Hoover's woolly-star (*Eriastrum hooveri*)

Information on the distribution, taxonomy, ecology, and reproductive biology of Hoover's woolly-star was gathered from the U.S. Fish and Wildlife Service (USFWS), U.S. Department of Agriculture Forest Service, California Department of Fish and Game (CDFG), Bureau of Land Management (BLM), California Native Plant Society (CNPS), peer-reviewed and gray literature, herbarium records from Rancho Santa Ana Botanic Gardens (RSABG), Claremont, CA, and consultation with botanists at USFWS, Sacramento, CA, BLM, Bakersfield, CA, and RSABG, Claremont, CA.

Status

Hoover's woolly-star was listed July 19, 1990 as a threatened species under the Endangered Species Act of 1973.¹ On March 6, 2001 the U.S. Fish and Wildlife Service submitted a proposal to delist Hoover's woolly-star.² The current action status remains as a proposed rule.³ CDFG ranks Hoover's woolly-star as a S3.2, threatened having 3,000 -10,000 individuals.⁴ The CNPS describes Hoover's woolly-star as a List 4 (plants of limited distribution) species with R-E-D Code 1-2-3.⁵ According to the most recent published literature by CDFG⁶ and CNPS⁷, Hoover's woolly-star is: (1) rare, but found in sufficient numbers and distributed widely enough that the potential for extinction is low at this time, (2) endangered in a portion of its range, and (3) endemic to California. Occurrences of Hoover's woolly-star are no longer included in the CNDDB (as of July 1999) because this database does not publish records for CNPS List 4 species.⁸

Habitat Requirements

Hoover's woolly-star is an annual herb that inhabits a wide variety of plant communities including alkali sinks and washes, annual grasslands, Suaeda scrub, valley saltbush scrub, interior coast range

¹United States Fish and Wildlife Service (USFWS), 19 July 1990. *Federal Register*, Part 17, Sections 29361-29370: "Endangered and Threatened Wildlife and Plants; Determination of the Endangered or Threatened Status for Five Plants from the Southern San Joaquin Valley." Washington, D.C.: Office of the Federal Register National Archives and records Administration.

²USFWS, 6 March 2001. *Federal Register*, Part 17, Sections 13474-13480: "Endangered and Threatened Wildlife and Plants; Proposal to Delist *Eriastrum hooveri* (Hoover's Woolly-Star)." Washington, D.C.: Office of the Federal Register National Archives and records Administration.

³Elizabeth Warne, *Personal Communication*, 23 September 2002. USFWS.

⁴California Department of Fish and Game (CDFG), June 2002. Natural Diversity Database. Special Vascular Plants, Bryophytes, and Lichens List. Biannual publication, Mimeo. 141 pp.

⁵California Native Plant Society (CNPS), 23 September 2002. "CNPS 6th Inventory of Rare Plants- online edition." Available at: www.northcoast.com/~cnps/cgi-bin/cnps/sensinv.cgi. (Last updated 20 December 2001).

⁶CDFG, June 2002.

⁷CNPS, 23 September 2002.

⁸Amy Kasameyer, *Personal Communication*. 23 September 2002. CDFG.

saltbush scrub, and Juniper woodland.⁹ Companion plants include common saltbush (*Atriplex polycarpa*), matchweed (*Gutierrezia bracteata*), desert tea (*Ephedra californica*), cheesebush (*Hymenoclea salsola*), and Kellogg's tarweed (*Hemizonia kelloggii*),¹⁰ but shrub cover in occupied habitat is typically less than 20%.¹¹ Hoover's woolly-star generally favors stabilized silty to sandy soils having noticeably higher quartz content, a low cover of competing herbaceous vegetation, and the presence of cryptogamic crusts.¹² Clay or shaly soils appear not to be preferred.¹³ Reported elevations for Hoover's woolly-star range from 315 to 2,960 feet.¹⁴ Populations occur on slopes, ridgetops, alluvial fans, and previously disturbed surfaces such as dirt roads, powerline corridors, and old firebreaks.¹⁵ Hoover's woolly star seedlings emerge from January until mid-April and flower between March and June. Seeds are primarily dispersed by wind. Dead stems may persist until the next growing season,¹⁶ or until sufficient rains cause disarticulation.¹⁷

Distribution

Hoover's woolly-star is endemic to the southern San Joaquin Valley and southern inner Coast Ranges of Fresno, Kings, Kern, Santa Barbara, San Benito, San Luis Obispo, and Tulare counties.¹⁸ Historically, prior to 1986, Hoover's woolly-star was known from 19 sites in San Luis Obispo, Kern, Fresno, and Santa Barabara Counties.¹⁹ Most of these sites occurred on the San Joaquin and Cuyama Valley floors or on land known as the Naval Petroleum Reserve, administered by the U.S. Department of Energy. Between 1986 and the time of listing in 1990, 118 populations existed, but were considered threatened by various human activities. Since 1990, surveys have shown Hoover's woolly-star to be more abundant and widespread than originally reported. The Bureau of Land Management estimates 1,056 occupied sites approximating 2,426 acres from the upper Cuyama Valley near Ventucopa, Santa

⁹United States Department of Agriculture Forest Service, 18 September 2002. "Hoovers Eriastrum." Available at: www.r5.fs.fed.us/sccs/species/hoovers-eriastrum.htm.

¹⁰Russ Lewis. 1992. "*Eriastrum hooveri* field inventory." U.S. Bureau of Land Management (BLM), Bakersfield, CA, Unpubl. Rep., 116 pp. + maps.

¹¹T.M. Sandoval and E.A. Cypher, 21 September 2002. "Hoover's woolly-star (*Eriastrum hooveri*).\"Available at: arnica.csustan.edu/esrpp/hoovers.htm. (Last Updated 18 April 1997).

¹²Russ Lewis, 1994. "*Eriastrum hooveri* field inventory." BLM, Bakersfield, CA, Unpubl. Rep., 120 pp.

¹³Ibid

¹⁴Ibid

¹⁵Ibid

¹⁶T.M. Sandoval and E.A. Cypher, 21 September 2002.

¹⁷Russ Lewis, 18 September 2002. *Personal Communication*. BLM.

¹⁸Steve Boyd and J. Mark Porter, 1999. Noteworthy Collections. California, *Eriastrum hooveri* (Jepson) H. Mason (POLEMONIACEAE). Madroño, 46(4): 215-216.

¹⁹USFWS, 6 March 2001.

Barbara County, northward to the Panoche Hills in San Benito County.^{20,21,22} Within this range, Hoover's woolly-star occurs in 42 U.S. Geological Survey quadrangles within Kings, Kern, San Luis Obispo, Santa Barbara, San Benito, and Fresno Counties.²³ A recent documented occurrence of Hoover's woolly-star in Los Angeles County marks the first record for this county and for the Mojave Desert.²⁴ The Los Angeles County (Antelope Valley) populations are located along the southwestern portion of the Rosamond Dry Lake basin, especially within the floodplain of Amargosa Creek and other drainages originating north of the Liebre Mountains. The Antelope Valley populations are approximately 87 miles (140 km) southeast of the nearest populations in Kern County and may likely represent another distinct population system.²⁵ Currently, the population structure of Hoover's woolly-star is characterized as comprising four metapopulations: (1) Kettleman Hills in Fresno and Kings counties; (2) Carrizo Plain-Elkhorn Plain-Temblor Range-Caliente Mountains-Cuyama Valley-Sierra Madre Mountains in San Luis Obispo, Santa Barbara and extreme western Kern counties; (3) Lokern-Elk Hills-Buena Vista Hills-Coles Levee-Taft-Maricopa areas of Kern County; and (4) Antelope Plain-Lost Hills-Semitropic Ridge region of Kern County.²⁶

Hoover's woolly-star is now known to be "locally common" in the eastern Antelope Valley²⁷, and has been recently reported in Rosamond²⁸, 13 miles from the project site. The Antelope Valley populations are approximately 20 miles (32 km) southwest from the proposed project site and are geographically separated by the Rosamond Hills to the north and northeast. Even within its known occupied range, under ideal soil conditions, and with the presence of associated plant species, Hoover's woolly-star may not be present in areas where it is predicted to occur.²⁹

²⁰Ibid

²¹Russ Lewis, 1994.

²²Russ Lewis, 1992.

²³USFWS, 6 March 2001.

²⁴Steve Boyd and J. Mark Porter, 1999.

²⁵Ibid

²⁶T.M. Sandoval and E.A. Cypher, 18 April 1997.

²⁷Steve Boyd and J. Mark Porter, 1999.

²⁸H.T. Harvey and Associates. April 2003. Addendum to Negative Declaration. Prepared for California Army Air National Guard, San Jose, California.

²⁹Ibid